NOXIOUS WEED PLAN

LAS VEGAS FIELD OFFICE
BUREAU OF LAND MANAGEMENT

A PLAN FOR INTEGRATED WEED MANAGEMENT
LAS VEGAS FIELD OFFICE

Prepared by
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LAS VEGAS FIELD OFFICE

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2006

The Las Vegas Field Office Noxious Weed Plan is approved for implementation in the Bureau of Land Management, Las Vegas Field Office and shall remain in effect until amended or withdrawn by written notice by the Authorized Officer. All existing weed mitigation measures are replaced by those in this document.

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Date

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Date

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Executive Summary

Southern Nevada rangelands are being impacted by the presence of invasive, non-native vegetation (weeds). The Las Vegas Field Office (LVFO) of the Bureau of Land Management (BLM) has prepared this document to provide guidance for an active integrated weed management program using best management practices (BMP). The BMPs originated from a cooperative effort between BLM and other Federal agencies which produced the document, Partners Against Weeds. The Las Vegas Field Office Noxious Weed Plan will narrow that focus as it dovetails into the Partners Against Weeds action plan.

Weeds are seen as a major threat to ecosystem health in southern Nevada. The presence of weeds in any landscape increases the inter-specific competition for resources. In most situations weeds out-compete native plants and displace them. Wildland fire frequency and size has increased in cheatgrass/red brome infested plant communities. These two winter annual grass species provide fine fuels for fire in plant communities that, historically, rarely burned. Additionally some riparian areas are infested with tamarisk. Tamarisk that dominate riparian areas use precious water resources, nutrients and space. Established stands of tamarisk will alter soil chemistry increasing salt deposition, leading to changes in plant community composition.

This strategy includes seven objectives for effective control of noxious and invasive weeds:

- Implementation of an integrated weed management (IWM) program
- Inventory and monitoring of noxious weeds
- Integration of a weed management component in all LVFO planning efforts with surveys, inventories and monitoring measures
- Development of research, detection, prevention, and control efforts
- Development of an education and awareness program for internal and external partners
- Development of a means of coordination between agencies, industry and private landowners to control noxious weeds
- Development of monitoring and evaluation procedures for treated sites

The management of weeds is further guided by the Las Vegas Resource Management Plan which identifies two objectives for resource management involving weeds. 1) **RP-1-f.,** which states; "*Use integrated weed management techniques to control and eradicate tamarisk, such as burning, chemical, biological or mechanical treatments, where potential for treatment is good. Rehabilitate the area with native species to help reduce the potential for tamarisk re-establishment and improve ecosystem health.*" 2) **VG1**, which states; "*Maintain or improve the condition of the vegetation on public lands to a Desired Plant Community or to a Potential Natural Community.*"

Stable funding is necessary for the implementation and maintenance of an integrated weed management effort. This plan identifies an initial funding level of approximately $110,000 to accomplishment these strategies. Additional funding will be requested as the program achieves the goals listed above.

Background

The Bureau of Land Management defines Noxious Weeds as: "A plant that interferes with management objectives for a given area of land at a given point in time". (http://www.nv.blm.gov/Resources/noxious_weeds.htm). The State of Nevada defines Noxious Weeds as: "Any species of plant which is, or liable to be, detrimental or destructive and difficult to control or eradicate..." (NRS 555.005) The species on the Nevada state list of noxious weeds are those receiving primary focus in the LVFO and have been recognized as having major impacts on ecosystem health and associated natural resources (Appendix 1).

Weeds spread without respect for jurisdiction or property boundaries. Weeds are everyone's problem and will require a cooperative effort between all stakeholders. Each LVFO program must recognize its role and responsibility to assist in weed control by incorporating BMPs into all aspects of planning and on the ground activities. Several documents have been published regarding invasive plant management, such as the BLM Partners Against Weeds – An Action Plan for the Bureau of Land Management (January 1996); Pulling Together – National Strategy for Invasive Plant Management (FICMNEW 1997) and Executive Order 13112 Invasive Species (February 1999). The Noxious Weed Strategy Plan for the Las Vegas Field Office builds on the strategies outlined in the above mentioned publications. There are several laws, regulations and policies that govern the management and control of noxious weeds on Public lands are listed in appendix 2.

The purpose of this strategy plan is to define the scope and resource impacts of weeds and proposes a course of action on Public lands administered by the LVFO. The intent is to prevent further resource degradation from noxious weeds and ultimately to have a no net increase to the size of areas infested with weeds.

Impacts associated with noxious weeds include, but are not limited to the following:

- Increased fire frequency and intensity
- Costly control efforts
- Degradation of wildlife and plant habitats
- Loss of ecosystem biodiversity
- Physical displacement of native vegetation
- Increased soil erosion
- Hydrologic cycle changes
- Reduced recreation opportunities

Current Situation

Weeds are most likely present throughout the boundaries of the LVFO. Infestations typically range from a few widely isolated plants to large areas dominated by weeds. These types of infestations may vary depending on weed species and previous control efforts. Inventories have been conducted over the years but a complete LVFO wide inventory remains to be accomplished. High profile areas such as the Virgin River, Las Vegas Wash, Ash Meadows, Red Rock National Conservation Area, major roadways and some of the area of critical

environmental concern or ACECs, have received most of the attention regarding weed inventories and treatments.

A list of some of the weed species that are a concern includes; Sahara mustard, camelthorn, perennial pepper weed, several knapweeds, malta and yellow starthistles, Johnson grass, Scotch thistle, Canada thistle, green fountain grass, puncture vine, tamarisk/salt cedar and other weedy species which may be found in various locations in the LVFO. The likelihood of new species being introduced is always present. Early detection of new weed species is critical in preventing further resource degradation and keeping control costs down.

Areas occupied by invasive weeds typically grow at an exponential rate without action. Weeds quickly invade disturbed and some undisturbed areas and cause even greater ecosystem damage. With proper planning and funding, the LVFO can slow the rate of new infestations and reduce the spread of existing weeds infestations.

Current treatment of weed infestations range from hand pulling to full herbicidal/mechanical treatment on the riparian areas of the Virgin River. Examples of treatment sites include herbicide research areas, riparian areas, fire rehabilitation areas, roadsides, trails, trailhead areas, parking areas and around BLM facilities, storage yards, campgrounds, parking lots and other areas used by the BLM in the execution of our work. Surveys (Appendix 3), inventories and treatments will continue to be conducted until weedy species have been either eradicated or controlled.

NEPA noxious weed analysis

Impacts associated with the presence of noxious weeds on the project footprint must be analyzed. Therefore the project lead will review the LVFO Weed Plan and/or consult with the LVFO noxious weed coordinator regarding their project. The LVFO weed plan and/or LVFO Noxious Weed Coordinator will provide BMPs to control the impacts associated with weeds on most project footprints. Review of this document and consultation with the LVFO Noxious Weed Coordinator should occur early in the project development. Completion of the weed risk assessment will begin the process of identifying any weed issues associated with the proposed project and provide the focus for mitigation measures that are to be incorporated into either the projects weed management plan or weed management component of plan of development. An example of a weed management plan is provided in appendix 4. Examples of necessary documents and a "Rapid Start" (Appendix 5) section have been provided in this weed plan for project leads.

Disposal areas

Currently there are areas within the LVFO that through past, present and future legislation may become develop into the infrastructure that support the human environment such as a school, parking lot, movie theater, business, hospital and other developments for human use. These parcels of land will be drastically altered relative to what the area is like today. With these uses in mind, it would be more judicious to spend the weed budget on lands that will remain under the management of the LVFO. Therefore, weeds in disposal areas are being viewed as a non-issue.

Exceptions would be flood control structures and right-of-way corridors or other projects that span that interface between the public lands and future development.

Budget

Funding levels for weed management have been flat but are expected to stabilize and increase with the LVFO's commitment to control and manage weeds. Weed management in the past was partially funded by Southern Nevada Public Lands Management Act. Currently, funding comes from appropriated funds for the LVFO noxious weed program and fire rehabilitation. A plan of operations, by year, for the LVFO noxious weed coordinator is shown in appendix 14. As the LVFO weed program grows, funding is expected to increase. An annual budget will be developed based on the BLM Planning Target Allocation and Annual Work Plan and will be appended yearly to this strategy plan. The duties of the Weed Coordinator are shown in appendix 6.

Goals, Management Opportunities and Recommended Strategies

The seven goals mentioned earlier are further detailed below.

Goal 1: Implementation of an Integrated Weed Management (IWM) program

"An IWM program is used to determine which methods are best for an overall approach to weed control through on the ground activities."

Management Opportunities

An active IWM program involves the use of four general categories of management options, which includes chemical, physical, biological and cultural. IWM is best described as a decision making process that uses site-specific information to determine treatment options that will most effectively control weeds. IWM is based on combined strategies for weed management that is more successful than a single method alone.

Recommended Strategies

Conduct IWM on Public lands administered by the LVFO using the following methods:

Chemical Control

1) Determine the effectiveness of herbicide on the target species, application rates, techniques, timing of application and impacts to non-target plants/animals.
2) Implement chemical control methods on locations where herbicide can be most effective on target species and site characteristics or in combination with other treatment methods.

Physical Control (manual/mechanical control methods)

1) Determine if the site and weed species are appropriate for manual/mechanical control methods.
2) Determine whether control methods may reduce or increase the infestation.

3) Implement physical control methods on target species, which are susceptible to this treatment regime.

Biological Control

1) Determine if sites are appropriate for biological control agents.
2) Implement biological control on infestations that can be feasibly controlled with this treatment method and/or as a supplement to other treatments.
3) Determine the feasibility of using grazing animals as a form of biological control on weed patches that would be consistent with other resource management objectives.

Cultural Control Prevention

1) Implement preventative measures such as quarantine and closure to reduce and contain existing infestations.
2) Determine if past management activities have facilitated the introduction and spread of noxious weeds and determine how to change activities and practices to reduce the spread of weeds.
3) Re-vegetate bare soil following disturbance, where practical.
4) Select plant species for seeding that will help to reduce the spread of noxious weeds.
5) Defer soil disturbance if possible until weeds are controlled or under management.
6) Determine whether specific public awareness programs could reduce infestations or control the spread of weeds.

Goal 2: Inventory and subsequent re-inventory of weeds

"Early detection of new weed species and new infestations is a primary step in weed management."

Management Opportunities

Inventory data provides necessary baseline information such as infestation locations, infestation size and density, associated environmental conditions and disturbance factors. This information is the minimum required when planning treatment activities.

Over the years weed inventories have been sporadic. However, with a firm commitment, weed surveys and monitoring will become routine, more complete and comprehensive. Additional surveys will be conducted in areas not yet inventoried. This information will be combined with past surveys. Then all survey data will be used to analyze trend characteristics on infestations which have never received treatment. Inventory information is needed to identify management actions in areas with weed infestations which will allow for budgetary planning.

Recommended Strategies

1) Develop a periodic inventory system for weeds that includes information such as weed species, infestation size and density, disturbance factors and other associated site characteristics. Commensurate with funding, 20% of the land mass for the LVFO will be inventoried each year.

2) Periodic re-survey of known infestations will show trend data and be used to determine rate of spread.
3) Maintain up to date noxious weed inventory data in the LVFO's Geographic Information System (GIS) database in the "**Risk_Assessment**" main folder. This folder can be found at: **M:/gis_work/district/Weeds_Information.** Inside the **Risk Assessment folder** are five additional files, "**Survey_Areas**", "**Weed_Points**", "**Weed_Lines**", "**Weed_Areas**" and the **LVFO_Weed_Map.** The LVFO weed map will be used to provide weed information during the NEPA process. Weed data will be provided to the Nevada Natural Heritage program to produce a statewide weed map. The same data will be provided for the BLM National Weeds Database that will be distributed freely. All data from the current LVFO weed inventory will be converted to a format compatible with a spatial GeoDatabase.
4) Use the District inventory database for planning and NEPA analysis. Create maps showing weed species, infestation location and other pertinent information for internal and external use.

Goal 3: Integration of a weed management component in all planning efforts with standard mitigation measures

"Include provisions for weed management in all BLM funded or BLM authorized actions."

Management Opportunities

The BLM can fulfill its responsibilities under the Federal Noxious Weed Act and Executive Order 13112 by incorporating weed management into all NEPA documents. The integration of weed management into project and activity planning will help to ensure adequate weed management.

Recommended Strategies

1) Incorporate weed management as a review component in NEPA documents for projects, activity plans and land use plans.
2) Incorporate the Best Management Practices (Appendices 7 & 8) as mitigation measures for various BLM activities.

Goal 4: Development of Prevention, Detection and Control efforts

"Develop a comprehensive prevention, early detection and aggressive control program."

Management Opportunities

Prevention and early detection of new locations for developing weed species and control of isolated weed infestations are the most practical and effective aspects of weed management. Prevention is best accomplished by ensuring that new weed species are not introduced into a new area. Avenues of introduction include weather, wildlife, hikers, mountain bikers, all terrain vehicles (ATVs), off highway vehicles (OHVs), passenger vehicles, contaminated seed, straw,

hay and/or mulch, activities that are staged in areas that are infested with weeds and un-restored disturbed areas.

Recommended Strategies

1) Continue to use standards designed to ensure seed, straw and mulch are certified weed seed free.
2) Implementation of BMP procedures listed in Appendices 7 & 8 when performing road maintenance activities and other BLM authorized activities.
3) Ensure BLM personnel are trained in identification of noxious weed species that are likely to be introduced so that early detection & rapid response procedures can be used.
4) Develop a treatment prioritization system, which combines weed species, site characteristics and available funding, in order to plan treatment regimes. This prioritization outline is shown in Appendix 9.

Goal 5: Development of an Education and Awareness program for internal and external partners

"Generate internal and external awareness of and support for noxious weed management."

Management Opportunities

Awareness of weed species and their impact to the environment, along with what can be done to reduce their spread is a primary step in weed management. Education and awareness includes BLM personnel, outside partners and the general public. All resources may be impacted by weeds or are vectors in their spread.

Recommended Strategies

1) Provide annual weed identification and management training to BLM employees and make this available to the general public. Encourage participants to evaluate how their actions can either prevent or increase the spread of weeds.
2) Provide outreach efforts to the general public about weed concerns and what can be done to prevent their spread.
3) Develop public service announcements, educational displays and materials for release to the public.
4) Give presentations at local and regional conferences on the impacts of weeds and steps being taken to control the problem.

Goal 6: Development of a means of coordination between agencies, industry and private landowners to control weeds

"Ensure that management for weeds is carried out efficiently and consistently across jurisdictional and political boundaries."

Management Opportunities

Weeds do not respect jurisdictional or property boundaries. All partners, Federal, state, local governments and interest groups must be involved and share coordination and cooperation.

Recommended Strategies

1) Participate in local, state and national training/workshops attended by other individuals working with weeds.
2) Participate in interagency weed control efforts.
3) Encourage weed control by Cooperative Weed Management Areas (CWMA) and local Conservation Districts.
4) Establish working relationships with County and State governments.

Goal 7: Development of monitoring and evaluation procedures for treated sites

"Ensure sufficient data are available to evaluate management actions, to provide a basis for making informed management decisions, to assess progress towards management objectives, and to develop new and more effective management methods."

Management Opportunities

Monitoring programs are necessary to evaluate management activities and demonstrate BLM compliance with applicable laws, policies, and regulations. Data from monitoring can provide information to show whether or not weed control efforts are making progress towards stated management objectives and the efficacy of specific control efforts and possible changes in management actions.

Recommended Strategies

1) Monitor weed locations that have had some treatment.
2) Ensure that other LVFO resource monitoring plans have some noxious weed component in their procedures.

Resource Needs

To accomplish the goals listed in this strategy plan, the following five resources and funding components are needed.

1) Continue to support a part/full-time noxious weed coordinator position within the LVFO. The responsibilities of this person are to design and direct the noxious weed program, plan weed control efforts, coordinate with other area BLM field offices, agencies and interest groups, maintain a weed inventory database and administer weed control contracts. This person would be responsible for the yearly planning of the weed program.

2) Toxicological research will be needed to determine which herbicides approved for public land use are safe for threatened and endangered plants and animals and other species of concern within the LVFO.

3) Explore possible development of a program for the use, support, and maintenance of a staff of weed control technicians. This may include crew leaders and a number of seasonal employees familiar with weed control procedures. Crew leaders and seasonal employees would perform most of the field work by the BLM in weed management.

4) Continue to use available contract labor for weed control. Contract labor consists of licensed contractors hired under a competitive bid process and also cooperative weed control projects by local Conservation Districts, Weed Districts and Cooperative Weed Management Areas.

5) Continue to involve LVFO personnel in weed management. A successful weed program includes participation among all programs within the Las Vegas Field Office. A suggested list of duties for Field Office staff is shown in appendix 10.

Annual Operation Plan

An operating plan specifically addresses work done annually to implement the LVFO weed management plan. This section will be updated no later than May 1 of each year to provide input to the Nevada State Office for funding for the following year. The LVFO should provide a stable funding source for the implementation of this strategy plan on an annual basis. Major emphasis areas for the program include inventory, control efforts, education/awareness, and coordination with external partners.

Below is a table summarizing the initial budget for the LVFO weed program. This table shows the minimum required to maintain the weeds program at the level accomplished during Fiscal Year 2006. See appendix 14 for the Annual Operating Plan(s).

Initial 2006 Budget and Workload Targets for the Noxious Weeds Program

The following table represents fiscal year 2006 and would be the minimum in total workload accomplishments and funding.

Weed Management Component	Program Element	Estimated Cost	Deliverables
Education/Awareness	AL	$ 7,600	5 Events
Weed Inventory	BS	$ 25,000	250,000 Acres
Weed Treatment	JD	$ 60,000	150 Acres
Treatment Evaluation/Monitoring	MK	$ 11,400	150 Acres

Total: $104,000

APPENDICES

Appendix 1. State of Nevada Noxious Weed List.

Noxious weeds are designated by the Nevada Department of Agriculture and recognized and managed on Public lands by the BLM. Listed plants are categorized into one of three levels depending upon infestation characteristics. The listed weeds are in accordance with Nevada Administrative Code (effective 10-31-05) 555.010.

Category A weeds generally are not found or are limited in distribution throughout the State. Such weeds are subject to:

1) Active exclusion from the State and active eradication wherever found.
2) Active eradication from the premises of a dealer of nursery stock.

Category A Weeds:

(1)	African rue	(*Peganum harmala*)
(2)	Austrian fieldcress	(*Rorippa austriaca*)
(3)	Austrian peaweed	(*Sphaerophysa salsula*)
(4)	Black henbane	(*Hyoscyamus niger*)
(5)	Camelthorn	(*Alhagi pseudalhagi*)
(6)	Common Crupina	(*Crupina vulgaris*)
(7)	Dalmatian toadflax	(*Linaria dalmatica*)
(8)	Dyer's woad	(*Isatis tinctoria*)
(9)	Eurasian water-milfoil	(*Myriophyllum spicatum*)
(10)	Giant Salvinia	(*Salvinia molesta*)
(11)	Giant reed	(*Arundo donax*)
(12)	Goats rue	(*Galega officinalis*)
(13)	Green fountain grass	(*Pennisetum setaceum*)
(14)	Houndstongue	(*Cynoglossum officinale*)
(15)	Hydrilla	(*Hydrilla verticillata*)
(16)	Iberian starthistle	(*Centaurea iberica*)
(17)	Klamath weed	(*Hypericum perforatum*)
(18)	Malta starthistle	(*Centaurea melitensis*)
(19)	Mayweed chamomile	(*Anthemis cotula*)
(20)	Mediterranean sage	(*Salvia aethiopis*)
(21)	Purple loosestrife	(*Lythrum salicaria*, *Lythrum virgatum* and their cultivars)
(22)	Purple starthistle	(*Centaurea calcitrapa*)
(23)	Rush skeletonweed	(*Chondrilla juncea*)
(24)	Sow thistle	(*Sonchus arvensis*)
(25)	Spotted knapweed	(*Centaurea maculosa*)
(26)	Squarrose knapweed	(*Centaurea virgata*)
(27)	Sulfur cinquefoil	(*Potentilla recta*)
(28)	Syrian bean caper	(*Zygophyllum fabago*)
(29)	Yellow starthistle	(*Centaurea solstitialis*)
(30)	Yellow toadflax	(*Linaria vulgaris*)

Category B weeds generally established in scattered populations in some counties of the state. Such weeds are subject to:

1) Active exclusion where possible.
2) Active eradication from the premises of a dealer of nursery stock.

Category B Weeds:

(1)	Carolina horse nettle	(*Solanum carolinense*)
(2)	Diffuse knapweed	(*Centaurea diffusa*)
(3)	Leafy spurge	(*Euphorbia esula*)
(4)	Medusahead	(*Taeniatherum caput-medusae*)
(5)	Musk thistle	(*Carduus nutans*)
(6)	Russian knapweed	(*Acroptilon repens*)
(7)	Sahara mustard	(*Brassica tournefortii*)
(8)	Scotch thistle	(*Onopordum acanthium*)
(9)	White horse nettle	(*Solanum elaeagnifolium*)

Category C weeds generally established and widespread in many counties of the state. Such weeds are subject to active eradication from the premises of a dealer of nursery stock.

Category C Weeds:

(1)	Canada thistle	(*Cirsium arvense*)
(2)	Hoary cress	(*Cardaria draba*)
(3)	Johnson grass	(*Sorghum halepense*)
(4)	Perennial pepperweed	(*Lepidium latifolium*)
(5)	Poison Hemlock	(*Conium maculatum*)
(6)	Puncture vine	(*Tribulus terrestris*)
(7)	Salt cedar (tamarisk)	(*Tamarix* spp.)
(8)	Water Hemlock	(*Cicuta maculata*)

Appendix 2. Laws, Regulations and Policies

The following laws, regulations and policies provide the basis for management of weeds on public lands.

Executive Order 13112 – Invasive Species – Defines Federal agency duties and responsibilities. This order further creates the Invasive Species Council and the requirement of an invasive species management plan.

Federal Land Policy and Management Act (FLPMA) of 1976, as amended – Directs the BLM to "take any action necessary to prevent unnecessary and or undue degradation of the public lands."

Public Rangelands Improvement Act (PRIA) of 1976 – Requires that BLM will manage, maintain and improve the condition of the public rangeland so that they will become as productive as feasible.

Federal Noxious Weed Act of 1974, as amended by Sec. 15, Management of Undesirable Plants on Federal Lands, 1990 – Authorizes the Secretary "to cooperate with other federal and state agencies, and others in carrying out operations or measures to eradicate, suppress, control or prevent or retard the spread of noxious weeds. Each federal agency shall 1) designate an office or person adequately trained to develop and coordinate an undesirable plants management for control of undesirable plants on federal lands under the agency's jurisdiction; 2) establish and adequately fund an undesirable plants management program through the agency's budgetary process; 3) complete and implement cooperative agreements with State agencies regarding the management of undesirable plant species on Federal lands; and 4) establish integrated management systems to control or contain undesirable plant species targeted under cooperative agreements."

BLM Manual 9011 – Provides policy for conducting chemical pest control programs under and integrated pest management approach.

BLM Manual 9015 – Provides policy relating to the management and coordination of noxious weed activities among BLM, organizations and individuals.

Appendix 3. Weed Survey Protocols

Invasive Weed Survey Protocol

Robert E. Wilson, UNCE White Pine Extension Educator
Ted Angle, Nevada BLM Noxious Weed Program Coordinator

The primary goal of the Nevada invasive weed survey process is to detect and map all established populations within the state. It is impossible to devote adequate resources to survey every square foot of the landscape in Nevada to fully inventory for invasive weed populations. Therefore, this protocol uses a tiered approach that relies first on the premise that the most likely place that invasive weed populations will become established or occur (the target population) are in disturbed areas. The second tier addresses other, presumably less probable areas with limited disturbance. This insures that invasive weed populations are also surveyed that might have been inadvertently started by livestock or wildlife in remote or undisturbed areas. The third tier is a random check to validate the reliability of survey done in the first and second tiers. This multi-tiered approach is designed to ensure a high degree of accuracy and reliability across the landscape.

PLANNING - Initial assessment of the problem and the necessary resources. Personnel must be trained using reliable information, standardized protocol, and adequate resources.

a. Identify all invasive plant species of concern.
b. Understand enough of the biology of each species to know how they are spread from an area to form new infestations.
c. Select areas to survey that are easily definable by a natural boundary, such as a watershed or valley.
d. Select a GPS database library compatible with your GIS system and with others that will be using the information.
e. Insure that fields are available in the GPS database library to note not only the size and location, but also to tag information, such as infestation species, density, individual collecting the data, or any other data needed for future planning.

TIER I - The assumption is that most likely places that weeds might become established are near transportation systems, in disturbed areas, and areas near water. Therefore all of these areas are scouted. Inventory and place in a GPS database library any invasive weed infestations found.

f. Scout all roads, trails, by-ways, railways, utility corridors, or other transportation systems.
g. Scout all known seeps, springs, streams, dry streambeds, riparian systems, irrigation canals, stock ponds, or any wetlands.
h. Scout any additional man-made or natural disturbed areas including, but not limited to, campgrounds, corral systems, mining disturbances, chainings, seismic exploration sites, material stockpiles, and any other disturbances.
i. Identify all paths, routes, or ways traveled by inclusion within the GPS database library. These document places surveyed where no invasive plant populations were found.
j. Additional areas may be specifically selected to survey based upon such issues as likely rare or endangered species presence, or for other management considerations.

TIER II - Stratified random check of areas not associated with disturbances, but potentially can be infested with invasive weed species. (Areas not necessarily considered impacted by disturbances constitute huge geographic areas in Nevada, therefore it is not feasible to survey in detail.)

k. Random areas are selected from grid maps where no known disturbances have occurred.
l. Stratify the area by either elevation or plant community, not both.
m. Randomly select a representative number of field check sites within the stratified area.

TIER III - Randomly check at least 5-20% of work previously surveyed and stored in a GPS database library to establish accuracy of survey efforts.

PERSONNEL MANAGEMENT – These are suggestions which help to increase personnel safety, efficiency, and accountability. These items are important to developing a cost-effective survey of invasive weeds across the landscape.

n. Try to find personnel with experience working alone in rural environments, familiar with local plant communities, and knowledgeable about electronic technology.
o. Provide adequate training and supervision.
    i. Insure that all members of the team are familiar enough with the invasive plant species to be inventoried so that they can quickly and accurately identify all stages of plant growth.
    ii. Insure that all members have a comprehensive knowledge of inventory procedures, GPS operation, and database management.
b. For safety reasons, survey personnel should preferably work in crews of at least two.
    i. Travel preferably with two persons per vehicle; when traveling by foot, surveyors should maintain a reasonable distance from each other.
    ii. Vehicles should stay within radio contact of each other; one vehicle should be within radio contact of base station
    iii. Keep vehicles in proper condition to ensure safety and reliability during off-highway use.

References:

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Appendix 4. Big Time Weed Plan

An Example of the Big Time Noxious Weed Plan

Before you begin. What follows is a real example of a weed plan that is as close to the state of the art as possible. This was merely intended to guide you in the preparation of a Noxious Weed Plan if a plan is required. Actual facts listed in this document would not be relevant to your project and then they might. When reviewing this document, keep in mind the scope of your project. If you project involves walking or a casual trip across the desert much of what is being discuss would not pertain and your plan would be much less detailed. Not all NEPA actions will require this type of a plan, most however would. If you should have any questions contact the LVFO Noxious Weed Coordinator at 702 515-5000.

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3-1 Herbicides Approved for Use on U.S. Forest Service Land
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United States Forest Service Noxious Weed General Requirements

INTRODUCTION

Noxious weed control practices for the Big-Time project as described in this plan have been developed utilizing the following sources: Information, in addition to surveys performed in 2001 by the Big-Time, from County Weed and Pest Control Districts in Lincoln and Uinta Counties in Wyoming; County Weed Supervisors from Summit, Morgan, Salt Lake, Utah, Juab, Millard, Beaver, Iron, and Washington Counties in Utah; Nevada Weed Action Committees in Lincoln and Clark Counties in Nevada; Weed Management Areas in Kern (Mountain Desert) and San Bernardino (Mojave) Counties in California; The Bureau of Land Management (BLM) Kemmerer Field Office in Wyoming; the Salt Lake, Fillmore, Cedar City, and St. George Field Offices in Utah; the Las Vegas and Red Rock Canyon Field Office in Nevada; and the Barstow and Needles Field Offices in California; Dixie National Forest; Humboldt-Toiyabe National Forest; Camp W.G. Williams, National Guard; United States Marine Corps Firing Range (Marine Corps Logistics Base); Edwards Air Force Base; Nellis Air Force Base; Fort Irwin; Moapa Indian Reservation; Utah Department of Agriculture and Food; Utah Noxious Weed Act; Wyoming Weed and Pest Control Act of 1973; Nevada Weed Action Committee; Nevada Revised Statutes: Chapter 555—Control of Insects, Pests and Noxious Weeds; California Commissioner of Agriculture; and California Codes, Food and Agricultural Code, Sections 7270-7274.

1.1 Plan Purpose

The purpose of this plan is to prescribe methods to prevent and control the spread of noxious weeds during and following construction of the Big-Time project. This project and its Contractors will be responsible for carrying out the methods described in this plan.

This plan is applicable to the construction and operation of the proposed pipeline facilities, including the pipeline right-of-way (PROJECT FOOT PRINT), the proposed compressor stations, the meter stations, areas of extra temporary workspaces (ATWS), and any other areas disturbed during construction.

1.2 Goals and Objectives

The goal of weed control is to implement early detection, containment, and control leading to eradication of noxious weeds during project construction. Noxious weeds are opportunistic plant species that readily flourish in disturbed areas, thereby preventing native plant species from establishing communities. Monitoring and maintenance during the construction and operational phases will include identification of any local infestation areas on and adjacent to the PROJECT FOOT PRINT that may pose potential infestation. An evaluation of the efficiency of the prescribed control measures will also be implemented during the operational phase.

1.3 Project Description

THIS PROJECT proposes to construct and operate facilities to expand the existing project from southwestern Wyoming to southern California. Proposed facilities include this and that of the THIS PROJECT . describe more about this project here. For more detailed information regarding the proposed facilities, see Federal Energy Regulatory Commission Docket No. CP01-422, Resource Report No. 1.

2.0 NOXIOUS WEED INVENTORY

Preconstruction field surveys were conducted and agency contacts made to identify existing noxious weed infestations along the pipeline PROJECT FOOT PRINT, and at the proposed facilities. Preconstruction surveys and literature reviews are presented in Table xx. In addition to preconstruction field surveys, THIS PROJECT's internal records were also reviewed to identify existing noxious weed infestations. The results of this review are presented for the Yahoo District in Table xx.

Each state crossed by THIS PROJECT will maintains an official list of weed species that are designated noxious species. Local Weed Supervisors designate additional weed species as noxious within individual

counties. Noxious weeds are defined as weeds "...arbitrarily defined by law as being especially undesirable, troublesome, and difficult to control. Definition will vary according to legal interpretation (USU Cooperative Extension 1992)." The noxious weeds listed for the states; other agencies; and counties in Wyoming, Utah, Nevada, and California are presented in Tables xxs, respectively. Information such as species identified within or adjacent to the project area, locations of infestations, and extent of infestations was collected from local regulatory offices (e.g., Weed District and BLM). Weed Management Areas and Mitigation Restrictions along the pipeline PROJECT FOOT PRINT and at proposed facilities are listed in Table xx.

THIS PROJECT, the Bureau of Land Management (BLM), and other Federal, state and local agencies recognize that there are species, such as Cheatgrass (Bromus tectorum) and other grass species (Schismus spp.), that because of their widespread distribution are not considered feasible for general control. In addition, THIS PROJECT's objective is to prevent the spread of noxious weeds, and treat selected areas along the Project Footprint where target species are problematic and form a significant portion of the vegetation community in comparison to adjacent undisturbed areas. Repeated control measures on the PROJECT FOOT PRINT are generally not considered feasible where those species are already established and abundant in the adjacent areas.

The preventive measures identified in Section 3.2 will be implemented along the PROJECT FOOT PRINT and at all of the proposed facilities to minimize the spread of noxious weeds during construction activities.
WYOMING

Under the authority of the Wyoming Weed and Pest Control Act of 1973 (Wyoming Statute 115-119), 22 plant species officially have been designated as noxious. The list of noxious weed species applies to the entire state (unless otherwise noted), and is presented in Table xx. Table xx also presents noxious weeds listed by federal and local agencies in addition to the state list, and highlights species identified as being of special concern (species targeted for control) by the agencies.

UTAH
Nineteen plant species officially have been designated as noxious for the State of Utah, per the authority vested in the Commissioner of Agriculture under Section 4-17-3 of the Utah Noxious Weed Act. The state list of noxious weeds is presented Tables xx and xx, which also includes noxious weeds listed by federal and local agencies. Species identified as being of special concern (species targeted for control) by the agencies are also highlighted.

NEVADA
The Nevada Control of Insects, Pests and Noxious Weeds Act (Nevada Revised Statutes: Chapter 555) grants the Director of the Nevada Department of Agriculture the authority to investigate and control noxious plants. Forty-three species officially have been designated as noxious for the State of Nevada. The state list of noxious weeds is presented in Table xx, which also includes noxious weeds listed by federal and local agencies. Species identified as being of special concern (species targeted for control) by the agencies are also highlighted.

CALIFORNIA
Under California Code, Food and Agriculture Code, Sections 7270-7224, the California Commissioner of Agriculture is granted the authority to investigate and control noxious weeds. The State of California has 167 listed noxious weeds. Those listed weeds pertinent to southern California are listed in Table xx. Federal and local agency lists of noxious weeds not found on the state list are presented in Table xx, as well as species identified as being of special concern (species targeted for control). Appendix C includes the complete list of noxious weed species for the State of California.

2.1 Weed Management Areas
Table xx presents county known noxious weed infestations along the PROJECT FOOT PRINT that are actively included in eradication programs.

3.0 NOXIOUS WEED MANAGEMENT

Regulatory agencies along the PROJECT FOOT PRINT and at the proposed facilities have varying requirements for weed management. Those requirements that diverge from the basic preventive measures for THIS PROJECT already requires of its Contractors are noted in Section xx. Implementation of preventive measures to control the spread of noxious weeds is the most cost-effective management approach.

3.1 Identification of Problem Areas

Prior to construction, THIS PROJECT will provide information and training regarding noxious weed management; identification; and the impacts on agriculture, livestock, and wildlife to the Contractors. The importance of preventing the spread of noxious weeds in areas not infested, and controlling the proliferation of weeds already present, will be explained. During construction, areas of concern will be identified and flagged in the field by THIS PROJECT staff. The flagging will alert construction personnel and prevent access into areas until noxious weed management control measures have been implemented.

3.2 Preventive Measures

The following preventive measures will be implemented to prevent the spread of noxious weeds: All Contractor vehicles and equipment will be cleaned prior to arrival at the work site using power or high pressure equipment. The wash down will concentrate on tracks, feet, or tires and on the undercarriage, with special emphasis on axles, frame, cross members, motor mounts, and on underneath steps, running boards, and front bumper/brush guard assemblies. Vehicle cabs will be swept out and refuse will be disposed of in waste receptacles.. The Contractor, with Environmental Inspector (EI) oversight, will ensure that vehicles and equipment are free of soil and debris capable of transporting noxious weed seeds, roots, or rhizomes before the vehicles and equipment are allowed use of access roads; In areas where infestations are identified or noted in the field, the Contractor will stockpile cleared vegetation and salvaged topsoil adjacent to the area from which they are stripped to eliminate the transport of soil-borne noxious weed seeds, roots, or rhizomes. During reclamation, the Contractor will return topsoil and vegetative material from infestation sites to the areas from which they were stripped; The Contractor will use compressed air to remove seeds, roots, and rhizomes from the equipment before transport off site. Cleaning sites will be recorded using GPS equipment and this information will be reported to the local contact person or agency; The Contractor will ensure that straw or hay bales used for sediment barrier installations or mulch distribution are obtained from state-cleared sources that are free of primary noxious weeds; The Contractor will implement the reclamation of disturbed lands immediately following construction as outlined in the Reclamation Plan if called for. Continuing revegetation efforts will ensure adequate vegetative cover to prevent the invasion of noxious weeds; and The Contractor will apply fertilizer to reclaimed areas only according to the Reclamation Plans and as directed by the jurisdictional land management agency, property owner, or EI.

3.3 Treatment Methods

THIS PROJECT will implement noxious weed control measures that will be in accordance with existing regulations and jurisdictional land management agency or landowner agreements. Before construction, only herbicides that are approved by the BLM will be applied to the identified weed infestations on BLM lands to reduce the spread or proliferation of weeds (each Federal agency may have a different list, check it out). Post-construction control measures may include one or more of the following methods:

Mechanical methods rely on equipment that is used to mow or disc weed populations. If such a method is used, subsequent seeding will be conducted to re-establish a desirable vegetative cover that will stabilize the soils and slow the potential re-invasion of noxious weeds. Seed selection will be based on site-specific conditions and the appropriate seed mix identified for those conditions, as presented in the Reclamation Plan; Disking or other mechanical treatments that would disturb the soil surface within native habitats will be avoided; Herbicide application is an effective means of reducing the size of noxious weed populations. Applications will be controlled, as described in Section 5.1, to minimize the impacts on the surrounding vegetation. In areas of dense infestation, a broader application will be used and a follow-up seeding program implemented. Supplemental seeding will be based on the criteria in the Reclamation Plan if called for. The timing of subsequent re-vegetation efforts will be based on the life of the selected herbicide; Treatment methods will be based on species-specific and area-specific conditions (e.g., proximity to water

or riparian areas, or agricultural areas, and time of year) and will be coordinated with the local regulatory offices; and If areas are not seeded until the following spring because of weather or scheduling constraints, all annuals and undesirable vegetation that have become established will be eradicated before seeding. However, THIS PROJECT's schedule includes restoration and re-vegetation by the November 1, 2002, completion date on the northern spreads and the May 1, 2003, completion date on the southern spreads.

3.4 Agency-Specific Requirements
As noted in Section 3.1, federal agency requirements that are more stringent than those imposed by local agencies are presented below.

3.4.1 Bureau of Land Management Lands
The Final Environmental Impact Statement on Vegetation Treatment on BLM Lands in Thirteen Western States (Note that there is a new EIS that expands the number of states and will soon be final) lists 19 herbicides acceptable for use on BLM lands (USDI 1991). The approved herbicides are listed in Table xx. Guidelines for the use of chemical control of vegetation on BLM lands are presented in the Chemical Pest Control Manual. These guidelines require submittal of a Pesticide Use Proposal (PUP) and Pesticide Application Records (PARs) for the use of herbicides on BLM lands. The forms required for submittal of PUPs and PARs are included in Appendix A.

Although a PUP usually is required for chemical treatment of vegetation on BLM lands, THIS PROJECT has established an agreement with BLM that allows for submittal of a comprehensive PUP for each state biannually, rather than before each use. THIS PROJECT will be required to submit a PAR for each use of herbicides on BLM lands within 24 hours of application. The occurrence of noxious weeds within the PROJECT FOOT PRINT will be reported to the BLM district office where the weeds occur. The appropriate weed control procedures, including target species, timing of control, and method of control, will be determined in consultation with BLM personnel. THIS PROJECT may be able to take advantage of the existing cooperative agreements between BLM and most of the counties by providing the funds required for county personnel to implement the necessary weed control procedures. If not, THIS PROJECT will be responsible for providing the necessary personnel or hiring a Contractor to implement the weed control procedures.

3.4.2 Other Agency and Landowner Requirements
Other agencies, such as counties and military installations, occasionally have unique requirements. These requirements are located in Table xx, and are correlated with weed infestation data provided by the agencies.

4.0 MONITORING
Monitoring of noxious weeds will be conducted during reclamation monitoring, on an ongoing basis, as well as on an annual basis in areas of known infestations.

4.1 Reclamation Monitoring
During Reclamation Monitoring. THIS PROJECT intends to begin monitoring during the first project foot printing season following construction, so reclamation monitoring will be done on the basis of overall division of construction spreads.

Reclamation and the associated noxious weed monitoring of the northern spreads (1 through 6 to MP 428.60) will begin in the spring of 2003 following June-November 2002 construction; Reclamation and the associated noxious weed monitoring inspections of the southern spreads (7through 10) will begin in the spring of 2004 following the November 2002 through May 2003 construction.

Noxious weed monitoring would occur biannually for approximately 5 years. Accordingly, on the northern spreads this would occur during the springs of 2003, 2005, and 2007; and on the southern spreads this would occur during the springs of 2004, 2006, and 2008. In addition, noxious weed conditions will be included in the primary second project foot printing season evaluations of re-vegetation success (2004). THIS PROJECT will implement this schedule on BLM or state-owned lands as well as private lands.

THIS PROJECT will document its observations following the above noted field inspections and make these monitoring reports available to BLM, USFS, County and the FERC as required.

Any areas where a spread of noxious weed infestation is noted, particularly in previously unaffected areas, will be further evaluated to determine if these areas require remedial action and additional treatment. THIS PROJECT will identify such areas to the agencies by state, county, and milepost, and will record any additional noxious weed control treatments. A report summarizing right-of-way stability, re-vegetation progress, percent cover, and weed infestation will be provided to the landowners every two years.

4.2 Ongoing Monitoring

Based on its arrangement for THIS PROJECT communicates with individual land owners, counties, and land management agencies if they have a concern pertaining to noxious weeds within their jurisdiction. These parties may also contact THIS PROJECT to report on the presence of noxious weeds. THIS PROJECT will control the weeds on a case-by-case basis and include a summary of actions taken in the next Reclamation Monitoring Report (above). Furthermore, THIS PROJECT operations personnel are trained in the identification of predominant noxious weed populations and will report spreads of noxious weeds during the normal course of maintenance. Therefore, the right-of-way is essentially monitored on an ongoing basis.

4.3 Monitoring of Known Infestation Areas

In addition to biannual and ongoing noxious weed monitoring (as noted by counties/ landowners or by THIS PROJECT's pipeline maintenance and operations team), THIS PROJECT will conduct annual site visits to monitor known infestation areas (see below). These areas will be evaluated and controlled. THIS PROJECT will continue to visit these infestation areas on and ongoing basis or until noxious weeds in the area are controlled.

5.0 HERBICIDE APPLICATION, HANDLING, SPILLS, AND CLEANUP

5.1 Herbicide Application and Handling

Herbicide application will be based on information gathered from the Weed Districts, and BLM. Before application, THIS PROJECT or its Contractor will obtain any required permits from the local authorities (the Weed Districts and BLM). Permits may contain additional terms and conditions that go beyond the scope of this management plan. A licensed Contractor will perform the application in accordance with applicable laws and regulations and permit stipulations.

All herbicide applications must follow United States Environmental Protection Agency label instructions. Application of herbicides will be suspended when any of the following conditions exists:

Wind velocity exceeds 6 miles per hour (mph) during application of liquids or 15 mph during application of granular herbicides; Snow or ice covers the foliage of noxious weeds; or Precipitation is occurring or is imminent.

Vehicle-mounted sprayers (e.g., handgun, boom, and injector) will be used mainly in open areas that are readily accessible by vehicle. Hand application methods (e.g., backpack spraying) that target individual plants will be used to treat small or scattered weed populations in rough terrain. Calibration checks of equipment will be conducted at the beginning of spraying and periodically to ensure that proper application rates are achieved.

Herbicides will be transported to the project site daily with the following provisions: Only the quantity needed for that day's work will be transported; Concentrate will be transported in approved containers only and in a manner that will prevent tipping or spilling, and in a location that is isolated from the vehicle's driving compartment, food, clothing, and safety equipment; Mixing will be done off site, over a drip catching device and at a distance greater than 200 feet from open or flowing water, wetlands, or other sensitive resources. No herbicides will be applied at these areas unless authorized by appropriate regulatory agencies; and all herbicide equipment and containers will be inspected for leaks daily. Disposal of spent containers will be in accordance with the herbicide label.

5.2 Herbicide Spills and Cleanup

All reasonable precautions will be taken to avoid herbicide spills. In the event of a spill, cleanup will be immediate. Contractors will keep spill kits in their vehicles and in herbicide storage areas to allow for quick and effective response to spills. Items to be included in the spill kit are: Protective clothing and gloves (PPE), absorptive clay, "kitty litter," or other commercial adsorbent, plastic bags and bucket, shovel, fiber brush and screw-in handle, dust pan, caution tape, highway flares (use on established roads only), and detergent. Also in accordance with the herbicide label.

Response to a herbicide spill will vary with the size and location of the spill, but general procedures include: BLM notification, traffic control; dressing the clean-up team in protective clothing; stopping the leaks; containing the spilled material; cleaning up and removing the spilled herbicide and contaminated adsorptive material and soil; and transporting the spilled pesticide and contaminated material to an authorized disposal site.

5.3 Worker Safety and Spill Reporting

All herbicide Contractors will be state certified to apply pesticides and obtain and have readily available copies of the appropriate material safety data sheets for the herbicides used. All herbicide spills will be reported in accordance with applicable laws and requirements.

6. REFERENCES

United States Department of Agriculture (USDA), 2000. Environmental Assessment for Noxious Weed Management, Dixie National Forest. Forest Service, Intermountain Region. January.

United States Department of the Interior (USDI), 1991. Final Environmental Impact Statement on Vegetation Treatment on BLM Lands in Thirteen Western States. Washington, D.C.

Appendix 5. Rapid Start

A "how to" for the LVFO field going staff, FY07

1. You need to prepare a **Weed Risk Assessment** for your project proposal. If that is the case, complete the following steps. If you are asked to participate in an ID team, do as much of the following as possible prior to the first ID team meeting. When you are at the ID team meetings, think proactively about ways to reduce weed introductions or spread. Remember to ensure compliance with relevant laws and authorities such as E.O. 13112.

2. Please keep the LVFO Weed Coordinator briefed as much as is possible, especially on larger/longer-term projects.

3. Get a good project description and location from the project leader. If inadequate information is presented, ask for additional detail.

Questions to ask:

- Will additional materials be brought in from off-site?
- If materials (such as gravel) will be brought in from off-site, the gravel pit should be examined.
- Where will vehicle wash-downs occur?
- Will there be regular truck traffic between public and private land? Around public lands?
- Where will turn-around areas be located?
- Where will staging or pit areas be located?

If the proposed action states that monitoring, flagging and treatments will occur, find out WHO is responsible for these actions. If the proponent is responsible for these actions, who is the BLM contact to ensure that these actions occur. If the BLM is responsible, how will these activities be paid for and who will do it?

4. Consult the LVFO_Weed_Map (in development). Weed inventory data will be contained in the GIS folder. (M:/gis_work/district/Weeds_Information/Risk_Assessment/LVFO_Weed_Map) When you look in the Risk Assess folder, you will find five files. The LVFO_Weed_Map will contain all of the present information on weeds found on the LVFO. Remember to look at the attribute tables to see when a weed infestation was mapped, how big it was, how dense the plants were etc. Remember that not every acre of the yearly inventories have been examined in detail.

Survey data gives you an indication of what may be in the area. It is not necessarily a substitute for a field visit. Also, remember that the survey data generally includes only Nevada listed noxious weeds, it rarely contains inventory of non-listed plants such as those species on the Clark County MSHCP weed list.

5. If necessary or possible, conduct a field tour. When you are in the field, GPS any additional weed infestations that you find. Take some photographs/digital images for the file. If you can't

identify suspicious plants, take several photos of the best quality possible so that you can capture as much information as possible which will be used for plant identification and bring them back to the office. The LVFO botanist or others can help you with plant identification.

6. Prepare a draft risk assessment. As appropriate, discuss proposed mitigations with the project lead and/or proponent, and the LVFO Noxious Weed Coordinator. Remember to refer to other legislative authorities, land use plans, Executive Orders etc. Refer to Partners Against Weeds (http://www-a.blm.gov/education/weed/paws/) and the Noxious Weed Plan for the Las Vegas Field Office. If you have questions about specific plants, please ask the Botanist or the LVFO Noxious Weed Coordinator.

7. When you are satisfied with the Weed Risk Assessment, please initial it.

8. Have the LVFO Noxious Weed Coordinator sign the Weed Risk Assessment. A copy of the Weed Risk Assessment and map will be retained for the LVFO Weed Coordinator in their files.

9. Prepare the Weed Management Plan or that sections for the plan of operation.

Appendix 6. LVFO Weed Coordinator Duties

1) Coordinate and conduct awareness/prevention programs.
2) Conduct inventory, monitoring, detection and evaluation.
3) Prioritize, prepare and review treatment plans by species and project.
4) Prepare risk assessments, environmental assessments, memorandum of understandings, and cooperative agreements as needed.
5) Prepare and administer contracts.
6) Prepare Pesticide Use Proposals (PUP) and Pesticide Application Records (PAR).
7) Prepare yearly Pesticide Use Report and Integrated Weed Management Report for submission to Nevada State Office and Washington Office.
8) Implement Policy Manual 9015.
9) Develop and coordinate pesticide use safety plan.
10) Provide direction/supervision of seasonal employees in the LVFO Weed Program.
11) Maintain a Nevada State Pesticide Application Certification.
12) Prepare and track the yearly 1020 Weed budget.
13) Coordinate weed activities with major landowners, county, State, Federal agencies, cooperative weed management areas and conservation districts.
14) Solicit participation internally and externally for inventory and prevention activities.
15) Review all NEPA actions for compliance with this plan.

Appendix 7. Best Management Practices

ALL VEGETATION AND SOIL SURFACE DISTURBING ACTIVITIES	
A. To limit the creation of bare soil and other factors that support invasive weed seeds and to retain the maximum shade possible to suppress weeds and prevent their establishment and growth. To incorporate weed prevention and control into project design, layout, alternative evaluation and project description and to avoid or remove sources of weed seed or propagules to prevent new weed infestations and the spread of existing weeds.	Stipulations **1, 2, 3, 4, 5, 6, 7, 8, & 9**
OPERATIONS	
B. Minimize roadside sources of weed seed that could be transported to other areas.	**10**
RECREATION	
C. To minimize the spread of weeds from infested areas into areas that are relatively weed free.	**7 & 11**
D. To minimize transport of weed seed by pack and saddle stock.	**12 & 13**
WILDERNESS	
E. To encourage a weed-free trail user's ethic.	**14**
CULTURAL RESOURCES	
F. To ensure that all bare ground created by archeology excavations is covered by desirable vegetation to discourage weeds.	**15**
WILDLIFE	
G. Incorporate weed prevention into wildlife habitat improvement project design.	**16**
LIVESTOCK GRAZING MANAGEMENT	
H. To minimize the creation of bare soil and other factors that support seeds.	**17**
I. Minimize weed seed transport to relatively weed-free areas.	**18**
J. Minimize spread of noxious weeds by livestock movement.	**19 & 20**
LOCATABLE, LEASABLE AND MINERAL MATERIAL PROGRAM	
K. Minimize the chances of weed establishment in mining operations.	**21, 22 & 23**
L. Remove seed sources that could be picked up by project related vehicles and equipment used on the project site and limit seed transport into relatively weed-free areas.	**24 & 25**
M. Improve effectiveness of prevention practices through weed awareness and education.	**26**
FIRE	
N. Ensure that fire suppression and rehabilitation efforts minimize weed spread.	**27**
LAS VEGAS FIELD OFFICE	
O. Maintain all LVFO building facilities, parking lots, visitor centers and other BLM facilities weed free.	**28**

Appendix 8. Stipulations

1. The project proponent will limit the size of any vegetation and/or ground disturbance to the absolute minimum necessary to perform the activity safely and as designed. The project proponent will avoid creating soil conditions that promote weed germination and establishment.

2. At the onset of project planning in the NEPA analysis phase, the project proponent, project lead or the LVFO noxious weed coordinator will complete the Risk Assessment Form for Noxious/Invasive Weeds (Appendix 11). This will provide information about the types of weed surveys to be conducted, the methods of weed treatments and weed prevention schedules for the management of noxious weeds on the project footprint. This will identify the level of noxious weed management necessary for stipulation 3 below.

3. The project proponent will coordinate project activities with the BLM Weed Coordinator (702-515-5000) regarding any proposed herbicide treatment. The project proponent will prepare, submit, obtain and maintain a pesticide use proposal (PUP) for the proposed action (Appendix 12). Weed treatments may include the use of herbicides, and only those herbicides approved for use on Public lands by the BLM.

4. Before ground-disturbing activities begin, the project proponent will review the weed risk assessment and prepare a weed management plan that will inventory and prioritize weed infestations for treatment within the project foot print. Should the weed spread beyond the project foot print then these weeds will be treated as a part of the project. This will include access routes.

5. The project proponent will begin project operations in weed free areas whenever feasible before operating in weed-infested areas.

6. The project proponent will locate pits and staging areas for the use of equipment storage, machine and vehicle parking or any other area needed for the temporary placement of people, machinery and supplies. These staging areas will be selected from locations that are relatively weed-free. The project proponent will avoid or minimize all types of travel through weed-infested areas or restrict major activities to periods of time when the spread of seed or plant parts are least likely.

7. BLM or the project proponent will determine equipment cleaning sites. These sites will be coordinated with the BLM. Project related equipment and machinery (**this especially includes the nooks and crannies of undercarriages**) will be cleaned of all mud, dirt and plant parts before moving into relatively weed-free areas and when leaving weed infested sites. Seeds and plant parts need to be collected, bagged and deposited in land fills through the waste disposal system when practical. (This is not meant to apply to service vehicles that will stay on roadways avoiding weed infested sites.)

8. Project workers need to inspect, remove, and dispose of weed seed and plant parts found on their clothing and equipment. Disposal methods vary depending on the project. Therefore call the LVFO Noxious Weed Coordinator.

9. The project proponent will evaluate options, including area closures, to regulate the flow of traffic on sites where native vegetation needs to be established.

10. Operation personnel shall include noxious weeds surveys in their daily field going operations. Weed infestation locations will be reported using the techniques provided at the annual LVFO noxious weed training.

11. Courses and routes for all speed and non-speed events will be inspected by recreational staff for weeds prior to scheduled events on that particular course. Any areas found to be infested will be marked and will be avoided until the weeds are either eradicated or under control. If weed infestations along courses and routes cannot be avoided or treatments cannot be done to control the weed infestations, then that portion of the course(s) and route(s) will be avoided entirely.

12. It is **strongly suggested** that the project proponent ensure that all pack and saddle stock on public lands within the LVFO use only certified weed-free and straw bedding which are available locally.

13. It is **strongly suggested** that the project proponent's pack and saddle stock be quarantined and fed only weed-free feed for 24 hours prior to using Public lands. Before quarantine, the entire animal should be brushed down to remove any weed seed.

14. Signage about weed awareness information will be provided at trailheads and incorporated in weed prevention techniques.

15. All archeological site excavations will be reseeded.

16. Environmental analysis for habitat improvement projects will include weed-risk considerations in the development and evaluation of alternatives.

17. Manage allotments to prevent excessive soil disturbance at salt licks, watering sites, and areas with sensitive soil conditions.

18. In range allotments that have both weed infested and relatively weed-free areas, control timing of animal movement from infested to non-infested areas. Prevent movement from infested to non-infested areas after weed seed set.

19. Livestock should be quarantined and fed weed seed free hay and other feeds for 2-4 days until weed seeds and plant propagules have passed through digestive tracts of livestock before they are transported into relatively weed-free areas in any active allotment.

20. Livestock permittees should notify their rangeland management specialist of weed infestation locations and coordinate livestock management with the goal of minimizing the spread of weeds by livestock.

21. The operator/permittee shall be responsible for controlling all undesirable invading plant species (including listed noxious weeds and other invasive plants identified as undesirable by federal, state or local authorities) within the boundaries of their authorization area and Bureau-authorized ancillary facilities (e.g. access and utility corridors), including all operating and reclaimed areas, until revegetation activities have been deemed successful and responsibility released by the authorized officer. Control standards and measures proposed must conform to applicable state and federal regulations.

22. The operator shall use weed free seed for reclamation and for other organic products for erosion control, stabilization, or revegetation (e.g. straw bales, organic mulch) must be certified weed free. According to Nevada law (NRS 587.111), "all seed shipped to or sold within Nevada is to be free of noxious weed seeds".

23. Prior to any application of herbicide on public lands the operator shall have a current PUP (Appendix 12) that outlines application methods, rates, weather constraints and the specific dates of applications. See Stipulation 3.

24. The operator/permittee is responsible for ensuring that all project related vehicles and equipment arriving at the site (including, but not limited to, drill rigs, dozers, support vehicles, pickups and passenger vehicles, including those of the operator, any contractor or subcontractor and invited visitors) do not transport noxious weeds onto the project site. The operator shall ensure that all such vehicles and equipment that will be traveling off constructed and maintained roads or parking areas within the project area have been power washed, including the undercarriage, since their last off road use and prior to off road use on the project. When beginning off road use on the project, such vehicles and equipment shall not harbor soil, mud or plant parts from another locale. Depending on the site setting such as remoteness, or other site condition, the operator may be required to have an on-site wash area identified and readily available. If a noxious weed infestation is known or later discovered on the project site, project related vehicles or equipment that have traveled through such an infestation shall be power washed including the undercarriage prior to leaving the site, at an established, identified wash area. Wash water and sediment shall be contained in an adjacent settling basin. Should any vegetation emerge in the wash area or settling basin, it will be promptly identified and appropriately controlled if found to be an undesirable invasive plant.

25. Should undesirable invasive plants become established on developed areas prior to reclamation reshaping; appropriate measures will be taken to ensure that the invasive plants are eradicated prior to reclamation earthwork. Should undesirable invasive plants become established on reshaped areas prior to reclamation seeding; appropriate measures will be taken to ensure that invasive plants are eradicated prior to seeding the site.

26. Noxious weed training will be provided at annual fire fighter training. All field going fire personal should attend the annual LVFO weed awareness and weed prevention training.

27. **Weed abatement procedures will not impede initial attach response. Public safety comes first.** Include weed risk factors and weed prevention considerations in the Resource

Advisor duties on all fire incidents. Set up vehicle wash down stations to clean, off district fire suppression equipment, prior to mobilization, and all vehicles during demobilization, if possible.

28. BLM staff will work to maintain weed free facilities and control the spread of weed seeds into surrounding areas. Assign to the LVFO volunteer coordinator the development of qualified (knowledgeable of noxious weeds and threatened and endangered plants and desert tortoise trained) ***intermediaries*** to lead volunteer weed pullers.

Appendix 9. Treatment Prioritization

There are numerous documented infestations of weeds on the public lands managed by the LVFO. Use of a prioritization system will enable the LVFO to focus efforts on areas that will provide the most effective and economic benefit. Weed infestations will be placed into three categories: high priority, medium priority and low priority. Each category is further described below.

High Priority: High priority infestations are those isolated weed patches that exist in relatively un-infested areas. Early detection and rapid response procedures will be used when infestations of High Priority areas by noxious weeds is documented. Previously treated weed patches will also be considered High Priority so as not to abandon the effort already completed. Also, High Priority status will be given to infestations occurring in burned areas because of their already fragile condition.

Medium Priority: Medium priority infestations are those infestations that are considered to be somewhat widespread but still controllable. This would include weed species such as perennial pepper weed, knapweeds, starthistles, Scotch thistle, camelthorn, giant reed, and tamarisk. Weed species that do not exhibit very invasive characteristics but are found in habitats such as riparian corridors and roadway will be placed in this category.

Low Priority: Low priority infestations are those that are too extensive for effective or economic control.

Appendix 10. LVFO Weed Prevention Schedule and Duties

Prevention Activity	Responsible Persons
Report weed locations during formal/informal field surveys and report to the LVFO weed coordinator.	**All personnel**
Monitor spread/control of weeds	LVFO Weed Coordinator and field personnel
Wash returning vehicles from off-LVFO fires	Returning fire personnel
Wash vehicles and ATVs of all mud, dirt and plant parts after field duties	**All field personnel**
Reestablish vegetation on all disturbances resulting from construction, reconstruction and maintenance activities	Engineers/Contract Administrators
Review recreation areas for presence of weeds	Recreation Specialists/LVFO Weed Coordinator
Secure weed free seed for all seeding projects	Project Lead/FSR Coordinator/LVFO Weed Coordinator
Distribute weed awareness information to the public	LVFO Weed Coordinator
Work with adjacent landowners on weed awareness and control	CWMAs/LVFO Weed Coordinator
Conduct weed identification/awareness training for field employees and managers	LVFO Weed Coordinator
Prior to ground disturbance activities, consider potential impact on existing seed banks of weeds	Project proponent/ Project Lead/LVFO Weed Coordinator
Prepare and complete a weeds risk assessment	Project proponent/ Project Lead/LVFO Weed Coordinator
Removal of isolated/satellite infestations of weeds	**All field personnel**
Work with county and state agencies on control and prevention of weeds	LVFO Weed Coordinator
Include weeds as part of NEPA analysis	EA preparers/NEPA coordinator/LVFO Weed Coordinator
Maintain records of weed infestations on the LVFO geospatial database	LVFO Weed Coordinator/GIS Specialist
Ensure gravel and fill for road material is weed free	Engineers/ LVFO Weed Coordinator/Minerals Staff/Operation Staff

Appendix 11. Risk Assessment Instructions and Form

NOXIOUS/INVASIVE WEEDS RISK ASSESSMENT

Directions: *This document is intended for electronic use and will be uploaded into NEPA LV. Adjust the spacing as necessary. Retain one copy of this document with your project files. Provide the LVFO Weed Coordinator with a second copy of the form and a project map which will be retained for future use. A definition for each of the two factors can be found on the next page.*

1. **Project Name:** (fill in) **NEPA LV No.**

2. **Date Risk Assessment was completed:**

3. **Describe steps taken to complete Risk Assessment:**

4. **Project Description:**

5. **Project Location**:

(If the proposed action requires regular traffic between one location for the proposed action and another location for various other uses, consider the second site to be part of the project area.)

6. **Factor 1** assesses the likelihood of noxious/invasive weed species spreading to the project area. For this project, the factor rates as _____, _____ **(List rating and score)** at the present time. This rating was based on the following findings:

(Input your rationale here for this rating.)

7. **Factor 2** assesses the consequences of noxious/invasive weed establishment in the project area. For this project, the factor rates as _____, _____ **(List rating and score)**. This rating was based on the following findings:

(Input your rationale here for this rating.)

8. Factor 1 * Factor 2 = **Risk Rating:** _____, _____ **(Score and rating)**.
(The Risk Rating is obtained by multiplying Factor 1 by Factor 2.)

9. Based on this risk rating, preventative management measures **are/ are not** (circle one) needed for this project. Preventative management measures developed for this project are as follows:

10. Based on this risk rating, project modifications **are/are not** (circle one) needed for this project. Project modifications developed for this project are as follows.

Weed Risk Assessment completed by: _____

Reviewed by/Date Reviewed: _____ Date: _____
(Noxious Weed Coordinator)

Risk Factors

Factor 1

NONE, (0): Noxious/invasive weed species are not found within or are adjacent to the proposed project area. Project activity is not likely to result in the establishment of noxious/invasive weed species in the project area.

LOW, (1-3): Noxious/invasive weed species present in areas adjacent to but not within the project area. Project activities can be implemented and prevent the spread of noxious/invasive weeds into the project area.

MODERATE, (4-7): Noxious/invasive weed species located immediately adjacent to or within the project area. Project activities are likely to result in some areas becoming infested with noxious weed species even when preventative management actions are followed. Control measures are essential to prevent the spread of noxious/invasive weeds within the project area.

HIGH, (7-10): Heavy infestations of noxious/invasive weeds are located within or immediately adjacent to the project area. Project activities, even with preventative management actions, are likely to result in the establishment and spread of noxious/invasive weeds on disturbed sites throughout much of the project area.

Factor 2

LOW TO NONEXISTENT (1-3): None. No cumulative effects expected.

MODERATE, (4-7): Possible adverse effects on site and possible expansion of infestation within the project area. Cumulative effects on native plant communities are likely, but limited.

HIGH, (7-10): Obvious adverse effects within the project area and probable expansion of noxious weed infestations to areas outside the project area. Adverse cumulative effects on native plant communities are probable.

FACTOR 1 * *FACTOR 2* = **Risk Rating**

Risk Rating

NONE, (0): Proceed as planned.

LOW, (1-10): Proceed as planned. Initiate control treatment on noxious weed populations that get established in the area.

MODERATE, (11-49): Develop preventative management measures for proposed project to reduce the risk of introduction or spread of noxious weeds into the area. Preventative management measures should include modifying the project to include seeding the area to occupy disturbed sites with desirable species. Monitor area for at least 3 consecutive years and provide for control of newly established populations of noxious weeds and follow-up treatment for previously treated infestations.

HIGH, (50-100):
Project must be modified to reduce risk level through preventative management measures, including seeding with desirable species to occupy disturbed sites and controlling existing infestations of noxious weeds prior to project activity. Project must provide at least 5 consecutive years of monitoring. Projects must also provide for control of newly established populations of noxious weeds and follow-up treatment for previously treated infestations.

Appendix 12. Pesticide Use Proposal Form and Example

Blank Document **NEVADA BLM PESTICIDE USE PROPOSAL**

PROPOSAL NUMBER: 06-NV-xx-xxx
REFERENCE NUMBER: EA. NV-052-xx-xxx
DNA# NV-050-01-xx-xxx
EA. NV-052-xx-xxx
EA. NV-052-xx-xxx

FIELD OFFICE Las Vegas **COUNTY** _____

LOCATION:

_____

DURATION OF PROPOSAL:

_____

I. PESTICIDE APPLICATION (including mixtures and surfactants):

	Trade Names:	Common Names:	EPA Registration No.	Manufactures:	Fomulations (Liquid or Granular)	Method of Application
1						
2						

MAXIMUM RATE OF APPLICATION:	
USE UNIT ON LABEL:	**POUNDS ACID EQUILIVENT/ACRE:**
1.	1.
2.	2.

INTENDED RATE OF APPLICATION:

APPLICATION DATES:

NUMBER OF APPLICATIONS:

II. PEST (List specific pest(s) and reason(s) for application):

III. MAJOR DESIRED PLANT SPECIES PRESENT:

IV. **TREATMENT SITE:** (Describe land type or use, size, stage of growth of target species, slope and soil type).

ESTIMATED ACRES

V. SENSITIVE ASPECTS AND PRECAUTIONS: (Describe sensitive areas [e.g., marsh, endangered, threatened, candidate and sensitive species habitat] and distance to treatment site. List measures taken to avoid impact to sensitive areas).

VI. NON TARGET VEGETATION: (Describe the impacts, cumulative impacts, and mitigations to non target vegetation that will be lost as a result of this chemical application).

VII. INTEGRATED PEST MANAGEMENT: (Describe how this chemical application fits into your overall integrated pest management program for the treatment area.)

Originator: _____ Date: _____
Company Name: Bureau of Land Management
Phone: (702) 515-5000

Certified Pesticide Applicator:

_____ Date: _____
(Signature)

Field Office Pesticide/Noxious Weed Coordinator

_____ Date: _____
(Signature)

APPROVALS:

_____ Date: _____
Karla D. Norris
Assistant Field Manger
Recreation and Renewable Resources
(Signature)

APPROVALS (State Office Use Only):

_____ Date: _____
BLM State Pesticide Coordinator
(Signature)

_____ Date: _____
Deputy State Director, Natural Resources,
Lands and Planning
(Signature)

___ CONCUR OR APPROVED
___ NOT CONCUR OR DISAPPROVED
___ CONCUR OR APPROVED WITH MODIFICATIONS *(Sept 06)*

Real Example **NEVADA BLM PESTICIDE USE PROPOSAL**

PROPOSAL NUMBER: 06-NV-05-001
REFERENCE NUMBER: EA. NV-052-98-061
DNA# NV-050-01-00-266
EA. NV-052-2003-173
EA. NV-052-03-239

FIELD OFFICE Las Vegas **COUNTY** Clark

LOCATION:
This project is located downstream from Mesquite NV and adjacent to the Virgin River.
Project JE15 – T., 13 South, R., 70 East, Sections 4 and 5.
Project JE22 – T., 14 South, R., 69 East, Section 28.
Project JE23 – T., 14 South, R., 70 East, Sections 7.
Project JE25 – T., 13 South, R., 71 East, Sections 15-17, 19, 20, and 21. And
T., 13 South, R., 70 East, Sections 23-27, 33, and 34. And
T., 14 South, R., 70 East, Section 4.

DURATION OF PROPOSAL: September 01, 2006 through August 31, 2011

I. PESTICIDE APPLICATION (including mixtures and surfactants):

	Trade Names:	Common Names:	EPA Registration No.	Manufactures:	Formulations (Liquid or Granular)	Method of Application
1	Triclopyr	Garlon 3A Garlon 4	Garlon 3A EPA # 62719-37 Garlon 4 – EPA # 62719-40	Dow AgroSciences	Liquid	Backpack sprayer; ATV tank with single nozzle sprayer
2	Imazapyr	Habitat Arsenal	Habitat - EPA # 241-426; Arsenal - EPA # 241-346	BASF	Liquid	
3	Methylated seed oils and nonionic surfactants	Pro-Mate Basal with Dye	EPA # not required	Helena Chemical Co.	Liquid	
4	Mixture of surfactants (Kinetic).	Kinetic	EPA # not required	Helena Chemical Co.	Liquid	

MAXIMUM RATE OF APPLICATION:	
USE UNIT ON LABEL:	**POUNDS ACID EQUILIVENT/ACRE:**
1. Garlon 3A, 0.25 – 3.0 gal/acre,	1. Garlon 3A; 0.75 – 9.0 lbs. AE/acre,
2. Garlon 4, 1.0 – 8.0 qts/acre,	2. Garlon 4, 1.0 – 8.0 lbs. AE/acre,
3. Habitat, 2.0 – 6.0 pints/acre,	3. Habitat, 0.5 – 1.50 lbs. AE/acre,
4. Arsenal, 2.0 – 6.0 pints/acre,	4. Arsenal, 0.5 – 1.50 lbs. AE/acre,
5. Pro-Mate Basal with Dye – N/A,	5. Pro-Mate Basal with Dye – N/A,
6. Kinetic – N/A.	6, Kinetic – N/A.

INTENDED RATE OF APPLICATION:

1. Garlon 3A, 1.5 lbs. AI/acre; Garlon 4, 6 lbs. AI/acre; 2. Habitat – 1.5 lbs. AI/acre; Arsenal - 1 lb. AI/acre 3. Pro-Mate Basal with Dye – N/A; 4. Kinetic - N/A.

APPLICATION DATES:

Applications will begin in September and end in March of each year for the next 5 years, beginning in September 2006 and ending March 2011.

NUMBER OF APPLICATIONS:

There will be 5 applications, one per year, beginning in September 2006 and ending in 2011.

II. PEST (List specific pest(s) and reason(s) for application):

This will be for the control of tamarisk, (*Tamarix ramosissima*), a noxious weed species which is being controlled as a WUI fuels reduction project and riparian habitat restoration for T&E habitat.

III. MAJOR DESIRED PLANT SPECIES PRESENT:

Quailbush, desert saltbush, mesquite, acacia, wolfberry, iodine bush, arrowweed and saltgrasses.

V. **TREATMENT SITE:** (Describe land type or use, size, stage of growth of target species, slope and soil type).

River floodplain. Soils are mixed alluvium with various textures; 1 % slope. Target species is tamarisk in various stages of growth.

ESTIMATED ACRES 1,400

V. SENSITIVE ASPECTS AND PRECAUTIONS: (Describe sensitive areas [e.g., marsh, endangered, threatened, candidate and sensitive species habitat] and distance to treatment site. List measures taken to avoid impact to sensitive areas).

Open flowing water with listed fish species present, together with three endangered or candidate avian species. Minimization measures include: 1. The EPA-aquatic registered herbicide Garlon 3A will be used exclusively within 25 feet of the daily high water mark; 2. Within 25-feet of the daily high water mark, chemical applicators will be limited only to backpack sprayers. 3. No chemical will be applied closer than 5 feet above the daily high water mark; 4. Garlon 4 will be used above 25 feet of the daily high water mark; 5. Marking dye will be used to insure proper coverage and to avoid repeat application on individual target plants; 6. Weather data will be recorded daily. No chemical applications will occur within 24 hours of forecasted precipitation events. Chemical operations will be shut-down whenever the ground level wind gusts exceed 10 mph; 7. To minimize the extent of triclopyr volatization, Garlon applications will occur in late fall through early spring, when ambient air temperatures average 60-90° Fahrenheit; 8. Field mixing of chemicals and transfers into spray equipment will occur inside spill tubs, at least 200 feet from the daily high water mark. Refer to EA for more detailed minimization measures.

VI. NON TARGET VEGETATION: (Describe the impacts, cumulative impacts, and mitigations to non target vegetation that will be lost as a result of this chemical application).

Spray will be applied directly to the target species; non-target species will be affected from drift and/or leaching from the soil.

VII. INTEGRATED PEST MANAGEMENT: (Describe how this chemical application fits into your overall integrated pest management program for the treatment area.)

The only proven method to eradicate tamarisk is through chemical, mechanical and cultural methods or a combination thereof. No biological controls are available for the treatment area

Originator: _____ Date: _____

Company Name: Bureau of Land Management
Phone: (702) 515-5000

Certified Pesticide Applicator:

_____ Date: _____
(Signature)

Field Office Pesticide/Noxious Weed Coordinator

_____ Date: _____
(Signature)

APPROVALS:

_____ Date: _____
Karla D. Norris
Assistant Field Manger
Recreation and Renewable Resources
(Signature)

APPROVALS (State Office Use Only):

_____ Date: _____
BLM State Pesticide Coordinator
(Signature)

_____ Date: _____
Deputy State Director, Natural Resources,
Lands and Planning
(Signature)

___ CONCUR OR APPROVED
___ NOT CONCUR OR DISAPPROVED
___ CONCUR OR APPROVED WITH MODIFICATIONS
(SEE ATTACHED)

Appendix 13. Pesticides and adjuvants approved for use on Public Lands

Herbicides Approved for Use on BLM Lands [1]			Updated: December 2005		
Active Ingredient	States with approval based upon current EIS/ROD & Court Injunctions	Trade Name	Manufacturer	EPA Registration No.	CA Registration No. *
Atrazine	AZ, CA, CO, ID, MT, ND, NM, NV, OK, SD, UT, WA, WY	Atrazine 4F	Albaugh/Agri-Star	42750-45	N
		AAtrex Nine-O	Syngenta	100-585	Y
		AAtrex 4L	Syngenta	110-497	Y
		Atrazine 4 L	Setre (Helena)	5905-470	N
		Atrazine 90DF	Setre (Helena)	35915-3-38167	N
Bromacil	AZ, CA, CO, ID, MT, ND, NM, NV, OK, SD, UT, WA, WY	Hyvar X	DuPont	352-287	Y
		Hyvar XL	DuPont	352-346	N
Bromacil + Diuron	AZ, CA, CO, ID, MT, ND, NM, NV, OK, SD, UT, WA, WY	Krovar I DF	DuPont	352-505	Y
		DiBro 2+2	Nufarm Americas Inc.	228-227	N
		DiBro 4+4	Nufarm Americas Inc.	228-235	N
		DiBro 4+2	Nufarm Americas Inc.	228-386	N
		Weed Blast 4G	SSI Maxim	34913-19	N
Chlorsulfuron	AZ, CO, ID, MT, ND, NM, NV, OK, SD, UT, WA, WY	Telar DF	DuPont	352-522	Y
Clopyralid	AZ, CO, ID, MT, ND, NM, NV, OK, SD, UT, WA, WY	Reclaim	Dow AgroSciences	62719-83	N
		Stinger	Dow AgroSciences	62719-73	Y
		Transline	Dow AgroSciences	62719-259	Y
Clopyralid + 2,4-D	AZ, CO, ID, MT, ND, NM, NV, OK, SD, UT, WA, WY	Curtail	Dow AgroSciences	62719-48	N
2,4-D	AZ, CA, CO, ID, MT, ND, NM, NV, OK, East-OR, West-OR, SD, UT, WA, WY	Agrisolution 2,4-D LV6	Agriliance, L.L.C.	1381-101	N
		Agrisolution 2,4-D Amine 4	Agriliance, L.L.C.	1381-103	N
		Agrisolution 2,4-D LV4	Agriliance, L.L.C.	1381-102	N
		2,4-D Amine 4	Albaugh, Inc./Agri Star	42750-19	Y
		2,4-D LV 4	Albaugh, Inc./Agri Star	42750-15	Y
		Solve 2,4-D	Albaugh, Inc./Agri Star	42750-22	Y
		2,4-D LV 6	Albaugh, Inc./Agri Star	42750-20	N
		Five Star	Albaugh, Inc./Agri Star	42750-49	N
		D-638	Albaugh, Inc./Agri Star	42750-36	N
		Aqua-Kleen	Cerexagri, Inc.	228-378-4581	Y
		2,4-D LV6	Helena Chem. Co	4275-20-5905	N
		2,4-D Amine	Helena Chem. Co	5905-72	N
		Opti-Amine	Helena Chem. Co.	5905-501	N
		Aqua-Kleen	NuFarm Americas Inc.	71368-1	Y
		Esteron 99C	NuFarm Americas Inc.	62719-9-71368	N
		Weedar 64	NuFarm Americas Inc.	71368-1	Y
		Weedone LV-4	NuFarm Americas Inc.	228-139-71368	N
		Weedone LV-4 Solventless	NuFarm Americas Inc	71368-14	Y
		Weedone LV-6	NuFarm Americas Inc.	71368-11	Y
		Hi-Dep	PBI Gordon Corp.	2217-703	N
		Formula 40	Nufarm Americas Inc.	228-357	N
		2,4-D LV 6 Ester	Nufarm Americas Inc	228-95	N
		Platoon	Nufarm Americas Inc.	228-145	N
		WEEDstroy AM-40	Nufarm Americas Inc.	228-145	N
		2,4-D Amine	Setre (Helena)	5905-72	N
		Barrage LV Ester	Setre (Helena)	5905-504	N
		2,4-D LV4	Setre (Helena)	5905-90	N
		2,4-D LV6	Setre (Helena)	5905-93	N
		Clean Crop Amine 4	UAP-Platte Chem. Co.	34704-5 CA	Y
		Clean Crop Low Vol 6 Ester	UAP-Platte Chem. Co.	34704-125	N

		Salvo LV Ester	UAP-Platte Chem. Co.	34704-609	N
		2,4-D 4# Amine Weed Killer	UAP-Platte Chem. Co	34704-120	N
		Clean Crop LV-4 ES	UAP-Platte Chem. Co.	34704-124	N
		Savage DF	UAP-Platte Chem. Co.	34704-606	Y
		Cornbelt 4 lb. Amine	Van Diest Supply Co.	11773-2	N
		Cornbelt 4# LoVol Ester	Van Diest Supply Co.	11773-3	N
		Cornbelt 6# LoVol Ester	Van Diest Supply Co.	11773-4	N
		Amine 4	Wilbur-Ellis Co.	2935-512	N
		Lo Vol-4	Wilbur-Ellis Co.	228-139-2935	N
		Lo Vol-6 Ester	Wilbur-Ellis Co.	228-95-2935	N
Dicamba	AZ, CA, CO, ID, MT, ND, NM, NV, OK, East-OR, West-OR, SD, UT, WA, WY	Dicamba DMA	Albaugh, Inc./Agri Star	42750-40	N
		Clarity	BASF Ag. Products	7969-137	Y
		Vanquish	Syngenta	100-884	Y
		Diablo	Nufarm Americas Inc.	228-379	N
Dicamba +2,4-D	AZ, CA, CO, ID, MT, ND, NM, NV, OK, East-OR, West-OR, SD, UT, WA, WY	Outlaw	Albaugh, Inc./Agri Star	42750-68	N
		Range Star	Albaugh, Inc./Agri Star	42750-55	N
		Weedmaster	BASF Ag. Products	7969-133	Y
		KambaMaster	Nufarm Americas Inc.	71368-34	N
		Veteran 720	Nufarm Americas Inc	228-295	Y
Diuron	AZ, CA, CO, ID, MT, ND, NM, NV, OK, SD, UT, WA, WY	Diuron 80DF	Agriliance, L.L.C.	9779-318	N
		Karmex DF	Griffin Company	1812-362	Y
		Direx 80DF	Griffin Company	1812-362	Y
		Direx 4L	Griffin Company	1812-257	Y
		Direx 4L-CA	Griffin Company	1812-257	Y
		Diuron 80WDG	UAP-Platte Chem. Co	34704-648	N
		Diuron-DF	Wilbur-Ellis	00352-00-508-02935	N
Fosamine [7]	CA	Krenite	DuPont	352-395	Y
Glyphosate	AZ, CA, CO, ID, MT, ND, NM, NV, OK, East-OR, West-OR, SD, UT, WA, WY	Aqua Star	Albaugh, Inc./Agri Star	42750-59	Y
		Forest Star	Albaugh, Inc./Agri Star	42570-61	Y
		Gly Star Original	Albaugh, Inc./Agri Star	42750-60	Y
		Gly Star Plus	Albaugh, Inc./Agri Star	42750-61	Y
		Gly Star Pro	Albaugh, Inc./Agri Star	42750-61	Y
		Glyfos	Cheminova	4787-31	Y
		Glyfos PRO	Cheminova	67760-57	Y
		Glyfos Aquatic	Cheminova	4787-34	Y
		ClearOut 41	Chem. Prod. Tech., LLC	70829-2	N
		ClearOut 41 Plus	Chem. Prod. Tech., LLC	70829-3	N
		Accord SP	Dow AgroSciences	62719-322	Y
		Glypro	Dow AgroSciences	62719-324	Y
		Glypro Plus	Dow AgroSciences	62719-322	Y
		Rodeo	Dow AgroSciences	62719-324	Y
		DuPont Glyphosate	DuPont	352-607	Y
		DuPont Glyphosate VMF	DuPont	352-609	Y
		Aquamaster	Monsanto	524-343	Y
		Roundup Original	Monsanto	524-445	Y
		Roundup Original II	Monsanto	524-454	Y
		Roundup Original II CA	Monsanto	524-475	Y
		Honcho	Monsanto	524-445	Y
		Honcho Plus	Monsanto	524-454	Y
		Roundup Pro	Monsanto	524-475	Y
		Roundup RT	Monsanto	524-454	N
		GlyphoMate 41	PBI Gordon Corp.	2217-847	Y
		Aqua Neat	Nufarm Americas Inc.	228-365	
		Foresters	Nufarm Americas Inc.	228-381	Y
		Razor	Nufarm Americas Inc.	228-366	Y
		Razor Pro	Nufarm Americas Inc	228-366	Y

		Rattler	Setre (Helena)	524-445-5905	Y
		Mirage	UAP-Platte Chem. Co.	524-445-34704	Y
		Mirage Plus	UAP-Platte Chem. Co.	524-454-34704	Y
Glyphosate + 2,4-D	AZ, CA, CO, ID, MT, ND, NM, NV, OK, East-OR, West-OR, SD, UT, WA, WY	Landmaster BW	Albaugh, Inc./Agri Star	42570-62	N
		Campaign	Monsanto	524-351	N
		Landmaster BW	Monsanto	524-351	N
Glyphosate + Dicamba	AZ, CA, CO, ID, MT, ND, NM, NV, OK, East-OR, West-OR, SD, UT, WA, WY	Fallowmaster	Monsanto	524-507	N
Hexazinone	AZ, CA, CO, ID, MT, ND, NM, NV, OK, SD, UT, WA, WY	Velpar ULW	DuPont	352-450	N
		Velpar L	DuPont	352-392	Y
		Velpar DF	DuPont	352-581	Y
		Pronone MG	Pro-Serve	33560-21	Y
		Pronone 10G	Pro-Serve	33560-21	Y
		Pronone 25G	Pro-Serve	33560-45	Y
		Pronone Power Pellet	Pro-Serve	33560-41	Y
Imazapyr	AZ, CO, ID, MT, ND, NM, NV, OK, SD, UT, WA, WY	Arsenal	BASF	241-346	N
		Arsenal Applicators Conc.	BASF	241-299	Y
		Arsenal Railroad Herbicide	BASF	241-273	N
		Arsenal Technical	BASF	241-286	Y
		Chopper	BASF	241-296	Y
		Habitat	BASF	241-426	N
		SSI Maxim Arsenal 0.5G	SSI Maxim Co., Inc.	34913-23	N
		Stalker	BASF	241-398	Y
Imazapyr + Diuron	AZ, CO, ID, MT, ND, NM, NV, OK, SD, UT, WA, WY	Sahara DG	BASF	241-372	N
		SSI Maxim Topsite 2.5G	SSI Maxim Co., Inc.	34913-22	N
		TopSite	BASF	241-344	N
Imazapic		Plateau	BASF	241-365	N
Notes: 1. This is the approved list prior to the completion of the 17 states EIS. 2. If used in areas other than California, refer to the California Veg. Management FEIS and ROD Risk Assessment, 1988.					

Active Ingredient	States with approval based upon current EIS/ROD & Court Injunctions	Trade Name	Manufacturer	EPA Registration No.	CA Registration No. *
Mefluidide	AZ, CO, ID, MT, ND, NM, NV, OK, SD, UT, WA, WY	Embark 2-S	PBI Gordon Corp.	2217-759	Y
Metsulfuron methyl	AZ, CO, ID, MT, ND, NM, NV, OK, SD, UT, WA, WY	Cimarron	DuPont	352-616	N
		Escort	DuPont	352-439	N
		Escort XP	DuPont	352-439	N
		Metsulfuron Methyl DF	Vegetation Man., L.L.C.	74477-2	N
		Patriot	Nufarm Americas Inc.	228-391	N
		PureStand	Nufarm Americas Inc.	71368-38	N
Picloram	AZ, CA, CO, ID, MT, ND, NM, NV, OK, East-OR, West-OR, SD, UT, WA, WY	Grazon PC	Dow AgroSciences	62719-181	N
		Tordon K	Dow AgroSciences	62719-17	N
		Tordon 22K	Dow AgroSciences	62719-6	N
Picloram + 2,4-D	AZ, CA, CO, ID, MT, ND, NM, NV, OK, East-OR, West-OR, SD, UT, WA, WY	Grazon P+D	Dow AgroSciences	62719-182	N
		Pathway	Dow AgroSciences	62719-31	N
		Tordon 101M	Dow AgroSciences	62719-5	N
		Tordon 101 R Forestry	Dow AgroSciences	62719-31	N
		Tordon RTU	Dow AgroSciences	62719-31	N
Simazine	AZ, CA, CO, ID, MT, ND, NM, NV, OK, SD, UT, WA, WY	Princep Call 90	Syngenta	100-603	Y
		Princep 4L	Syngenta	100-526	Y
Sulfometuron methyl	AZ, CO, ID, MT, ND, NM, NV, OK, SD, UT, WA, WY	Oust	DuPont	352-401	Y
		Oust XP	DuPont	352-601	Y
		SFM 75	Vegetation Man., L.L.C.	72167-11-74477	Y
		Spyder	Nufarm Americas Inc.	228-408	N

Tebuthiuron	AZ, CA, CO, ID, MT, ND, NM, NV, OK, SD, UT, WA, WY	Spike 20P	Dow AgroSciences	62719-121	Y
		Spike 80W	Dow AgroSciences	62719-107	Y
		Spike 1G	Dow AgroSciences	1471-104	N
		Spike 40P	Dow Agro Sciences	62719-122	Y
		Spike 80DF	Dow AgroSciences	62719-107	Y
		SpraKil S-5 Granules	SSI Maxim Co., Inc.	34913-10	Y
Tebuthiuron+ Diuron	AZ, CA, CO, ID, MT, ND, NM, NV, OK, SD, UT, WA, WY	SpraKil SK-13 Granular	SSI Maxim Co., Inc.	34913-15	Y
		SpraKil SK-26 Granular	SSI Maxim Co., Inc	34913-16	Y
Triclopyr	AZ, CA, CO, ID, MT, ND, NM, NV, OK, SD, UT, WA, WY	Garlon 3A	Dow AgroSciences	62719-37	Y
		Garlon 4	Dow AgroSciences	62719-40	Y
		Remedy	Dow AgroSciences	62719-70	Y
		Pathfinder II	Dow AgroSciences	62719-176	Y
		Tahoe 3A	Nufarm Americas Inc.	228-384	N
		Tahoe 4E	Nufarm Americas Inc	228-385	N
Triclopyr + 2,4-D	AZ, CA, CO, ID, MT, ND, NM, NV, OK, SD, UT, WA, WY	Crossbow	Dow AgroSciences	62719-260	Y
Triclopyr + Clopyralid	AZ, CO, ID, MT, ND, NM, NV, OK, SD, UT, WA, WY	Redeem	Dow AgroSciences	62719-337	Y

*Just because an herbicide has a Federal registration, it may or may not be registered for use in California. This column identifies those formulations for which there is a California registration. For BLM purposes, it is taken one step further, a particular formulated herbicide may have a California and Federal registration and still not be available for use on BLM administered lands because the active ingredient is not approved according to the California Vegetation Management Environmental Impact Statement Record of Decision and may require tiering to the appropriate EIS.

Adjuvants Approved for Use on BLM Lands				*Updated: December 2005*
ADJUVANT CLASS	**ADJUVANT TYPE**	**TRADE NAME**	**MANUFACTURER**	**COMMENTS**
Surfactant	Non-ionic	Spec 90/10	Helena	
		Optima	Helena	CA Reg. No. 5905-50075-AA
		Induce	Setre (Helena)	CA Reg. No. 5905-50066-AA
		Activator 90	Loveland	CA Reg. No. 34704-50034-AA
		LI-700	Loveland	CA Reg. No. 36208-50022, WA Reg. No. AW36208-70004
		Spreader 90	Loveland	WA Reg. No. 34704-05002-AA
		UAP Surfactant 80/20	Loveland	
		X-77	Loveland	CA Reg. No. 36208-50023
		Cornbelt Premier 90	Van Diest Supply Co.	
		Spray Activator 85	Van Diest Supply Co	
		R-11	Wilbur-Ellis	CA Reg. No. 2935-50142
		R-900	Wilbur-Ellis	
		Super Spread 90	Wilbur-Ellis	WA Reg. No. AW-2935-70016
		Super Spread 7000	Wilbur-Ellis	CA Reg. No. 2935-50170 WA Reg. No. AW-2935-0002
	Spreader/Sticker	Cohere	Helena	CA Reg. No. 5905-50083-AA
		R-56	Wilbur-Ellis	CA Reg. No. 2935-50144
		Bond	Loveland	CA Reg. No. 36208-50005
		Tactic	Loveland	CA Reg. No. 34704-50041-AA
		Lastick	Setre (Helena)	
	Silicone-based	Aero Dyne-Amic	Helena	CA Reg. No. 5905-50080-AA
		Dyne-Amic	Helena	CA Reg. No. 5095-50071-AA
		Kinetic	Setre (Helena)	CA Reg. No. 5905-50087-AA
		Phase	Loveland	CA Reg. No. 34704-50037-AA
		Silwet L-77	Loveland	CA Reg. No. 36208-50025
		Sylgard 309	Wilbur-Ellis	CA Reg. No. 2935-50161
		Syl-Tac	Wilbur-Ellis	CA Reg. No. 2935-50167
Oil-based	Crop Oil Concentrate	Crop Oil Concentrate	Helena	CA Reg. No. 5905-50085-AA
		Crop Oil Concentrate	Loveland	

		Herbimax	Loveland	CA Reg. No. 34704-50032-AA, WA Reg. No. 34704-04006
		R.O.C. Rigo Oil Conc.	Wilbur-Ellis	CA Reg. No. 2935-50098
	Methylated Seed Oil	Methylated Spray Oil Conc.	Helena	
		MSO Concentrate	Loveland	CA Reg. No. 34704-50029-AA WA Reg. No. 34704-04009
		Hasten	Wilbur-Ellis	CA Reg. No. 2935-50160 WA Reg. No. 2935-02004
		Super Spread MSO	Wilbur-Ellis	
	Vegetable Oil	Amigo	Loveland	CA Reg. No. 34704-50028-AA WA Reg. No. 34704-04002
		Competitor	Wilbur-Ellis	CA Reg. No. 2935-50173 WA Reg. No. AW-2935-04001
Fertilizer-based	Nitrogen-based	Quest	Setre (Helena)	CA Reg. No. 5905-50076-AA
		Dispatch	Loveland	
		Dispatch 111	Loveland	
		Dispatch 2N	Loveland	
		Dispatch AMS	Loveland	
		Bronc	Wilbur-Ellis	
		Bronc Max	Wilbur-Ellis	
		Bronc Max EDT	Wilbur-Ellis	
		Bronc Plus Dry EDT	Wilbur-Ellis	WA Reg. No.2935-03002
		Cayuse Plus	Wilbur-Ellis	CA Reg. No. 2935-50171
Special Purpose or Utility	Buffering Agent	Buffers P.S.	Helena	CA Reg. No. 5905-50062-ZA
		Tri-Fol	Wilbur-Ellis	CA Reg. No. 2935-50152
	Colorants	Signal	Precision	
		Hi-Light	Becker-Underwood	
		Hi-Light WSP	Becker-Underwood	
	Compatibility/ Suspension Agent	E Z MIX	Loveland	CA Reg. No. 36208-50006
		Support	Loveland	WA Reg. No. 34704-04011
		Blendex VHC	Setre (Helena)	
	Deposition Aid	ProMate Impel	Helena	
		Pointblank	Helena	CA Reg. No. 52467-50008-AA-5905
		Intac Plus	Loveland	
		Liberate	Loveland	CA Reg. No. 34704-50030-AA WA Reg. No. 34704-04008
		Weather Gard	Loveland	CA Reg. No. 34704-50042-AA
		Rivert	Wilbur-Ellis	CA Reg. No. 2935-50163
		EDT Concentrate	Wilbur-Ellis	
		Sta Put	Setre (Helena)	CA Reg. No. 5905-50068-AA
	Defoaming Agent	No Foam	Wilbur-Ellis	CA Reg. No. 2935-50136
		Buster Foam	Setre (Helena)	CA Reg. No. 5905-50072-AA
		Cornbelt Defoamer	Van Diest Supply Co.	
	Diluent/Deposition Agent	Improved JLB Oil Plus	Brewer International	
	Foam Marker	Align	Helena	
		R-160	Wilbur-Ellis	
	Invert Emulsion Agent	Redi-vert II	Wilbur-Ellis	CA Reg. No. 2935-50168
	Tank Cleaner	Wipe Out	Helena	
		Kutter	Wilbur-Ellis	
		Neutral-Clean	Wilbur-Ellis	
		Cornbelt Tank-Aid	Van Diest Supply Co.	
	Water Conditioning	Blendmaster	Loveland	
		Choice	Loveland	CA Reg. No. 34704-50027-AA WA Reg. No. 34704-04004
		Choice Xtra	Loveland	
		Choice Weather Master	Loveland	CA Reg. No. 34704-50038-AA

Appendix 14. Plan of Operations, by year, for the LVFO Noxious Weed Coordinator

2006 Operating Plan				
Projects committed to for 2006				
Education/Awareness	AL	5 Events	$7,600	Provide public information about weeds in the LVFO. Give training to field going staff about weeds. Train volunteers and recreational groups and conservation groups.
Weed Inventory	BS	250,000 Acres	$25,000	Inventory and re-inventory the LVFO with a 20% (600,000 acres) yearly target goal.
Weed Treatment	JD	150 Acres	$60,000	Pending funding levels in 1020 Weed, treatment areas will be done as they become apparent and/or are prioritized.
Treatment Evaluation/Monitoring	MK	150 Acres	$11,400	Monitor the effectiveness of weed treatments. Treat any weeds found and continue until the weed in treatment areas is eradicated.
		Total:	**~$104,000**	

2007 Operating Plan				
Projects committed to for 2007				
Education/Awareness	AL	7 Events	$7,600	Provide public information about weeds in the LVFO. Give training to field going staff about weeds. Train volunteers and recreational groups and conservation groups.
Weed Inventory	BS	350,000 Acres	$25,000	Inventory and re-inventory the LVFO with a 20% (600,000 acres) yearly target goal.
Weed Treatment	JD	70 Acres	$60,000	Pending funding levels in 1020 Weed, treatment areas will be done as they become apparent and/or are prioritized.
Treatment Evaluation/Monitoring	MK	150 Acres	$11,400	Monitor the effectiveness of weed treatments. Treat any weeds found and continue until the weed in treatment areas is eradicated.
		Total:	**~$104,000**	

(Attach yearly plan of operations as another page to the end of this document.)

End.